**Week 6 Quiz**

**The due date for submitting this assignment has passed.**

**Due on 2018-09-20, 23:59 IST.**

**Assignment submitted on 2018-09-20, 12:34 IST**

All questions carry equal weightage. All Python code is assumed to be executed using Python3.

* If the answer to a question is a string, make sure you enclose the value in quotes (either single or double quotes).
* If the answer to a question is a list, make sure you enclose the value in square brackets and separate the values using commas.

You may submit as many times as you like within the deadline. Your final submission will be graded.

***2.5 points***

Suppose u and v both have values of type set and u^v == u + v. From this we can conclude that:

 u and v are identical

 u and v are disjoint

 u is a subset of v

 v is a subset of u

**Yes, the answer is correct.   
Score: 2.5**

**Feedback:**

*The right hand side is all elements in the union of u and v. The left hand side is those elements in the union that occur in exactly one of the two sets. Since the two are equal, there is no element in the union that occurs in both sets, so the intersection is empty.*

**Accepted Answers:**

*u and v are disjoint*

***2.5 points***

Suppose u and v both denote sets in Python. Under what condition can we guarantee that u - (v - u) == u?

 This is true for any u and v.

 The set u should be a subset of v.

 The set v should be a subset of u.

 The sets u and v should be disjoint.

**Yes, the answer is correct.   
Score: 2.5**

**Feedback:**

*v - u consists of elements not in u. If we remove these elements from u, it has no effect, so we are left with u, always.*

**Accepted Answers:**

*This is true for any u and v.*

We have a list of values [17,98,89,42,67,54,89,25,38]. Suppose we build a max-heap by starting with an empty heap and inserting each value from the list into the heap, from left to right. Write the resulting heap, as a list.



**No, the answer is incorrect.   
Score: 0**

**Feedback:**

*The resulting heap is [98,67,89,38,42,54,89,17,25].*

**Accepted Answers:**

*(Type: Regex Match) ^\s\*\[\s\*98\s\*,\s\*67\s\*,\s\*89\s\*,\s\*38\s\*,\s\*42\s\*,\s\*54\s\*,\s\*89\s\*,\s\*17\s\*,\s\*25\s\*\]\s\*$*

***2.5 points***

Suppose we insert the value 97 into the heap built in the previous question. The resulting heap will then be:



**No, the answer is incorrect.   
Score: 0**

**Feedback:**

*The resulting heap is [98,97,89,38,67,54,89,17,25,42]*

**Accepted Answers:**

*(Type: Regex Match) ^\s\*\[\s\*98\s\*,\s\*97\s\*,\s\*89\s\*,\s\*38\s\*,\s\*67\s\*,\s\*54\s\*,\s\*89\s\*,\s\*17\s\*,\s\*25\s\*,\s\*42\s\*\]\s\*$*



